### **Attachment 4**

## **Consultant Attribution Analyses**

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**Dimensional Fund Advisors** 

Genesis Investment Management

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Please find attached an analysis of the performance of the emerging markets account we manage for CalPERS (managed against your custom FTSE benchmark) relative to a representative account that we manage against the MSCI EM index. During the period studied (inception through March 31, 2007), the CalPERS account underperformed the representative account by an annualized 2.62%. The difference in performance is largely due to the difference in the composition of the benchmarks.

The country analysis on Page 2 shows that the largest differences in performance between the two accounts were lower weights in China, Thailand, India, and Indonesia. All of this difference was attributable to the fact that these countries, were (and in the case of China, still is) not in the custom bench at some point.

This impact can be thought of in two ways: 1) Because the countries weren't investable and performed well the CalPERS portfolio missed the chance to participate in the strong returns of those countries. The underweights versus our representative account in China, Thailand India and Indonesia reduced performance versus the representative account by 46, 21, 29 and 39 basis points, respectively, for a total of 135 basis points. 2) By not being able to invest in those countries, the CalPERS portfolio could not participate in the strong stock selection we had within those four countries which explains another 285 basis points of the difference between the two accounts.

Differences in country investability also had a secondary impact of creating different sector weights between the two benchmarks. Because of the sector weight differences between the FTSE custom bench and the MSCI EM bench, the CalPERS portfolio had a lower weight in energy stocks, which did well during this period, and had more weight in technology, a sector that underperformed during this period. As you can see on the Page 3, of the 262 basis point difference in annual performance between the two accounts, 128 basis points is explained by differences in sector weights. However, when viewed from a sector perspective, the bigger impact from differences in investability was its influence on stock selection within sector. For example, some of the best performing energy stocks we held in the representative account during this period were in Thailand and China, countries where CalPERS participation was limited.

Sector weight differences between the two portfolios was also influenced by one other factor: over this period Technology was also a higher weight in the CalPERS portfolio because Taiwan was originally a smaller country in the MSCI index than in the FTSE Custom benchmark due to differences in how the vendors were adjusting for the free float in that country (MSCI was more drastic in cutting down the free float assumption to 55% vs. FTSE's 75%). This difference was changed at the end of 2003 when MSCI increased its free float constraints in Taiwan, which then caused the portion of the MSCI EM weight in technology to increase.

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## **Country Analysis**

	Total	Security	Country	CalPERS Account	Representative Account	Active
Country	Contribution	Selection	Allocation	Weight	Weight	Weight
China	(1.46%)	(0.99%)	(0.46%)	-	6.79%	(6.78%)
Thailand	(1.32%)	(1.11%)	(0.21%)	1.50%	5.28%	(3.78%)
India	(0.72%)	(0.43%)	(0.29%)	2.75%	5.14%	(2.40%)
Indonesia	(0.70%)	(0.31%)	(0.39%)	-	3.66%	(3.66%)
Taiwan	(0.48%)	0.20%	(0.68%)	16.41%	11.68%	4.73%
Korea	(0.43%)	0.52%	(0.95%)	24.25%	16.20%	8.05%
Mexico	(0.18%)	(0.22%)	0.04%	7.29%	6.00%	1.29%
Israel	(0.10%)	0.01%	(0.10%)	4.63%	3.92%	0.70%
Poland	(0.04%)	0.01%	(0.06%)	-	0.22%	(0.22%)
Chile	(0.04%)	(0.04%)	0.00%	0.59%	0.63%	(0.04%)
Argentina	(0.02%)	(0.17%)	0.19%	1.68%	1.20%	0.48%
Philippines	(0.00%)	0.05%	(0.05%)	1.75%	1.73%	0.01%
Russia	0.13%	0.06%	0.07%	-	0.30%	(0.30%)
South						
Africa	0.14%	(0.10%)	0.24%	12.82%	11.96%	0.86%
Czech	0.150/	0.10%	0.05%	0.750/	0.400/	0.250/
Republic	0.15%			0.75%	0.49%	0.25%
Hungary	0.17%	0.10%	0.07%	2.69%	1.95%	0.73%
Malaysia	0.18%	(0.34%)	0.52%	0.07%	2.66%	(2.59%)
Turkey	0.29%	0.10%	0.18%	4.48%	4.16%	0.32%
Cash	0.75%	•		2.83%	2.45%	0.38%
Brazil	0.97%	0.14%	0.84%	15.54%	13.02%	2.52%
Total	(2.62%)	(2.44%)	(0.98%)			

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## **Sector Analysis**

		~ .	~ .	CalPERS	Representative	
Sector	Total Contribution	Security Selection	Sector Allocation	Account Weight	Account Weight	Active Weight
				O	_	_
Energy	(1.18%)	(0.87%)	(0.32%)	10.44%	13.97%	(3.53%)
Finance	(0.79%)	(0.64%)	(0.16%)	29.26%	28.29%	0.97%
<b>Industrial Commodities</b>	(0.70%)	(0.74%)	0.03%	15.07%	15.54%	(0.47%)
Technology/Electronics	(0.69%)	(0.20%)	(0.49%)	14.82%	10.81%	4.00%
Capital Equipment	(0.30%)	(0.26%)	(0.04%)	7.04%	7.11%	(0.07%)
Telecommunications	(0.22%)	(0.17%)	(0.05%)	3.56%	4.63%	(1.07%)
Medical	(0.17%)	(0.09%)	(0.07%)	0.69%	0.97%	(0.28%)
Transportation	(0.02%)	(0.00%)	(0.02%)	0.07%	0.49%	(0.42%)
Gold	(0.00%)	0.00%	(0.00%)	0.00%	-	0.00%
Utilities	0.05%	0.32%	(0.27%)	2.34%	4.58%	(2.25%)
Consumer Cyclical	0.11%	0.13%	(0.01%)	2.05%	2.04%	0.01%
Consumer Staples	0.17%	0.19%	(0.02%)	2.63%	2.65%	(0.03%)
Construction &						
Housing	0.36%	0.21%	0.15%	9.21%	6.47%	2.75%
Cash	0.75%	•	•	2.83%	2.45%	0.38%
Total	(2.62%)	(2.13%)	(1.28%)			

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## **Security Analysis**

Company Name	Country	Sector	Total Contribution	CalPERS Account Weight	Rep. Account Weight	Active Weight
	Country	Sector	Contribution	weight	weight	weight
PTT PUBLIC COMPANY THB10(ALIEN MKT) KOOKMIN CREDIT CAR	Thailand	Energy	(1.02%)	0.70%	1.99%	(1.29%)
KRW5000 CHINA PETRO & CHEM	Korea	Finance	(0.50%)	1.47%	0.35%	1.12%
'H' CNY1 KOOKMIN BANK	China	Energy	(0.35%)	-	1.59%	(1.59%)
KRW5000	Korea	Finance	(0.32%)	2.77%	1.19%	1.58%
BK RAKYAT IDR500 YANZHOU COAL MININ	Indonesia	Finance	(0.32%)	-	1.07%	(1.07%)
'H'CNY1 COMPAL ELECTRONIC	China	Energy	(0.30%)	-	0.86%	(0.86%)
TWD10 SIAM COMMERCIAL BK THB10 CNV PRF	Taiwan	Technology/Electronics	(0.27%)	2.73%	1.72%	1.01%
10/5/2009(AM) CMC MAGNETICS CORP	Thailand	Finance	(0.25%)	-	0.40%	(0.40%)
TWD10 BANK CENTRAL ASIA	Taiwan	Technology/Electronics	(0.22%)	0.94%	0.61%	0.33%
IDR125 TELEKOMUNIKASI IND	Indonesia	Finance	(0.22%)	-	0.90%	(0.90%)
SER`B`IDR250	Indonesia	Telecommunications	(0.21%)	-	0.70%	(0.70%)
AECI LTD ORD R1	South Africa	Industrial Commodities	(0.19%)	0.07%	0.83%	(0.76%)
RITEK CORP TWD10 SINOPEC S/PETROCHE	Taiwan	Technology/Electronics	(0.19%)	1.08%	0.50%	0.58%
'H'CNY1 ASIA CEMENT CORP	China	Industrial Commodities	(0.18%)	-	0.75%	(0.75%)
TWD10	Taiwan	Construction & Housing	(0.17%)	0.78%	-	0.78%
NETWORK HEALTHCARE ZAR0.01	South Africa	Medical	(0.16%)	0.67%	0.93%	(0.25%)
SIDERCA SA ARS1 P.T. ASTRA INTERNATIONAL	Argentina	Industrial Commodities	(0.16%)	1.56%	-	1.56%
TERBU IDR500 GRASIM INDUSTRIES	Indonesia	Capital Equipment	(0.15%)	-	0.81%	(0.81%)
INR10 SHINHAN FIN GROUP	India	Construction & Housing	(0.14%)	-	0.15%	(0.15%)
KRW5000 PETROCHINA CO	Korea	Finance	(0.14%)	3.62%	2.50%	1.13%
'H'CNY1 HYUNDAI MOTOR CO	China	Energy	(0.14%)	-	1.09%	(1.09%)
KRW5000	Korea	Capital Equipment	(0.12%)	2.35%	1.89%	0.46%
ICICI BANK INR10 CHINA COSCO HLDGS	India	Finance	(0.12%)	0.12%	0.47%	(0.35%)
'H'CNY1.00	China	Transportation	(0.12%)	-	0.16%	(0.16%)

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SATYAM COMPUTER			(0.110/)		0.220/	(0.220()
INR2	India	Technology/Electronics	(0.11%)	-	0.23%	(0.23%)
BAJAJ AUTO INR10	India	Capital Equipment	(0.11%)	0.020/	1.34%	(1.34%)
PTT CHEMICAL SHINSEGAE CO	Thailand	Industrial Commodities	(0.11%)	0.03%	0.67%	(0.64%)
KRW5000 GPO MEXICO SAB	Korea	Consumer Cyclical	(0.11%)	0.64%	0.32%	0.32%
SER'B'COM NPV	Mexico	Industrial Commodities	(0.11%)	0.30%	0.15%	0.15%
CEMEX SA CPO NPV	Mexico	Construction & Housing	(0.11%)	2.79%	2.04%	0.74%
GAZPROM OAO Regis INDL BANK OF KOREA	Russia	Energy	0.06%	-	0.12%	(0.12%)
KRW5000	Korea	Finance	0.06%	0.52%	0.14%	0.37%
BK HAPOALIM BM ILS1 GS ENGINEER & CONS	Israel	Finance	0.06%	2.26%	1.58%	0.68%
KRW5000 VESTEL ELECTRONIK	Korea	Construction & Housing	0.07%	1.22%	0.44%	0.78%
TRL1000 OIL COMPANY LUKOIL	Turkey	Consumer Cyclical	0.07%	0.36%	0.27%	0.09%
(JSC) Regis ATTICA HOLDINGS SA	Russia	Energy	0.08%	-	1.11%	(1.11%)
EUR0.9	Greece	Transportation	0.09%	-	0.65%	(0.65%)
SANLAM NPV LOTTE CONFECT	South Africa	Finance	0.09%	2.34%	2.12%	0.22%
KRW5000	Korea	Consumer Staples	0.09%	-	0.36%	(0.36%)
AKBANK TRY1	Turkey	Finance	0.10%	1.58%	1.40%	0.18%
TELEFONICA O2 CZECH REPUBLIC, CZK100 QUANTA COMPUTER	Czech Republic	Telecommunications	0.11%	0.16%	0.06%	0.11%
TWD10	Taiwan	Technology/Electronics	0.12%	0.28%	0.51%	(0.23%)
BCO BRADESCO SA PREF NPV	Brazil	Finance	0.12%	0.82%	0.33%	0.49%
STATE BK OF INDIA INR10	India	Finance	0.12%	1.80%	0.15%	1.65%
SIAM COMMERCIAL BK THB10 (ALIEN MKT) AMERICA MOVIL SA COM SER 'L' NPV	Thailand	Finance	0.12%	-	0.97%	(0.97%)
(L/VTG) MURRAY & ROBERTS	Mexico	Telecommunications	0.12%	1.68%	-	1.68%
ZAR0.1 HYUNDAI	South Africa	Construction & Housing	0.12%	1.59%	0.74%	0.85%
DEVELOPMEN KRW5000	Korea	Construction & Housing	0.13%	0.70%	0.37%	0.33%
BK MANDIRI IDR500 USINAS SIDERURGICAS	Indonesia	Finance	0.13%	-	0.18%	(0.18%)
DE MINAS ASIA CEMENT CORP	Brazil	Industrial Commodities	0.14%	1.59%	1.36%	0.23%
TWD10 HUADIAN POWER INTL	Taiwan	Construction & Housing	0.14%	0.26%	0.36%	(0.10%)
'H'CNY1	China	Utilities	0.14%	-	0.62%	(0.62%)
ACER INC TWD10	Taiwan	Technology/Electronics	0.14%	0.77%	0.26%	0.51%
SOUZA CRUZ SA COM	Brazil	Consumer Staples	0.14%	0.73%	0.40%	0.33%

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NPV						
BCO DO BRASIL SA COM NPV MOL HUNGARIAN OIL	Brazil	Finance	0.16%	0.80%	0.53%	0.26%
HUF1000 (REGD)	Hungary	Energy	0.17%	2.69%	1.95%	0.73%
HYUNDAI STEEL CO GERDAU SA SIDERURG	Korea	Industrial Commodities	0.18%	1.34%	1.01%	0.33%
PRF NPV PETROLEO BRASILEIRO	Brazil	Industrial Commodities	0.20%	2.01%	1.64%	0.37%
SA PRF NPV	Brazil	Energy	0.22%	3.87%	3.26%	0.61%
TENARIS S.A. USD1	Argentina South	Energy	0.26%	1.37%	0.60%	0.77%
ABSA GROUP LTD ZAR1 DAELIM INDUSTRIAL	Africa	Finance	0.28%	2.51%	2.13%	0.39%
KRW5000	Korea	Construction & Housing	0.39%	1.62%	0.68%	0.94%
CASH			0.75%	2.83%	2.45%	0.38%
Total			(2.62%)			



# PERFORMANCE COMMENTARY CalPERS Emerging Markets Portfolio versus DFA Emerging Markets Portfolio Performance Attribution from Inception to 3/31/2007

- Country allocation, i.e., country weight differences, was the primary contributor to outperformance and contributed more to outperformance than stock selection. Timing of cashflows and late country additions resulted in the CalPERS Emerging Markets Portfolio to deviate from DFA's internal target country weights. These larger deviations between target and actual country weights were within an acceptable range and helped performance for the period.
- 2. Return differences in the Czech Republic, Indonesia, Malaysia, and Thailand were a result of the delayed addition of these countries (relative to the DFA Emerging Markets Portfolio) due to factors including CalPERS' initial exclusion of these countries and/or custody account opening delays. Cashflows also limited CalPERS Emerging Markets Portfolio's ability to get to target weights quickly. Investing in these countries more slowly helped performance as other markets (which were overweight as a result of the above countries' underweightings) performed relatively better.
- 3. Stock selection had some negative impact on performance. For example, the -3.24% impact on performance in Korea was due to exclusion of eligible companies resulting from failure to meet CalPERS' social screen criteria.
- 4. Trading costs boosted performance. For example:
  - The CalPERS Emerging Markets Portfolio received Brazil in-kind transfers in late 2002. These Brazil in-kind transfers led to the overweighting of Brazil in the CalPERS Emerging Markets Portfolio just before the Portfolio's Brazil stocks experienced a period of particularly strong returns.
  - Due to absence of cashflows, Turkey was allowed to reach a weight of almost 15% at one point in CalPERS Emerging Markets Portfolio. A subsequent sell program heavily targeted Turkey stocks which were sold just before prices of Turkish equities fell.

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Performance data represents past performance. Past performance is no guarantee of future results, and current performance may be higher or lower than the performance displayed. The investment return and principal value of an investment will fluctuate such that an investor's shares, when redeemed, may be worth more or less than their original cost. Total returns include reinvestment of dividends and capital gains and are net of all fees and expenses.

## CalPERS EM Portfolio versus DFA EM Portfolio Performance Attribution from inception to 3/31/2007

	Average Weight		Compour	nd Return				
	CalPERS	DFA	CalPERS	DFA				
Country Name	Portfolio	Portfolio	Portfolio	Portfolio	Allocation	Selection	Interaction	Total
LATIN AMERICA								
Argentina	0.00%	1.73%	0.00%	414.45%	-0.94%	0.00%	0.01%	-0.93%
Brazil	12.92%	9.52%	623.48%	678.40%	4.93%	-0.12%	0.82%	5.63%
Chile	4.68%	4.59%	249.21%	250.21%	0.03%	0.16%	0.12%	0.31%
Mexico	12.55%	10.11%	320.31%	356.59%	0.24%	-2.12%	0.96%	-0.91%
EUROPE								
Czech Republic	0.83%	0.45%	128.73%	240.66%	0.61%	-1.07%	0.06%	-0.41%
Hungary	5.91%	3.24%	318.12%	315.21%	-0.48%	0.20%	0.08%	-0.20%
Poland	5.35%	3.10%	325.88%	355.39%	1.34%	-1.08%	0.14%	0.40%
Turkey	10.36%	7.00%	472.96%	472.42%	4.19%	0.71%	0.23%	5.13%
ASIA								
India	1.68%	3.67%	121.92%	97.87%	-2.15%	1.46%	0.61%	-0.07%
Indonesia	0.02%	6.29%	14.94%	278.00%	-0.27%	0.04%	0.14%	-0.08%
Malaysia	2.96%	6.79%	93.19%	125.31%	4.97%	0.81%	0.22%	6.00%
Philippines	4.76%	2.79%	256.17%	245.17%	0.20%	0.21%	0.15%	0.56%
South Korea	12.75%	10.51%	127.26%	158.84%	-1.02%	-3.24%	0.48%	-3.78%
Taiwan	10.52%	9.74%	84.80%	79.86%	0.06%	0.48%	0.25%	0.79%
Thailand	0.02%	5.37%	20.41%	135.67%	4.23%	-0.01%	0.03%	4.25%
AFRICA / MIDDLE EAST								
Israel	9.60%	6.53%	193.71%	198.45%	-1.76%	-0.73%	0.17%	-2.33%
South Africa	4.10%	7.35%	171.77%	152.22%	-2.69%	0.13%	0.89%	-1.67%
Cash	1.00%	1.24%	12.17%	12.29%	1.23%	0.00%	0.00%	1.24%
Estimated Total	100.00%	100.00%	276.91%	262.99%	12.74%	-4.17%	5.36%	13.92%
Fees and Expenses			-4.26%	-6.47%				2.21%
Trading + Turnover + Oth	er		5.50%	-5.07%				10.57%
Actual Return			278.15%	251.45%				26.70%



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### **Country Attribution**

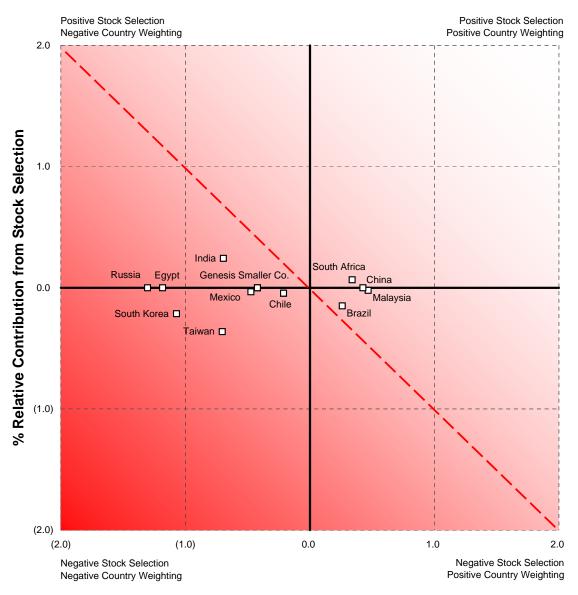
The Variance of Significant Countries chart gives an overview of where the CalPERS portfolio added or lost value versus the Genesis Composite (of unconstrained portfolios). The CalPERS portfolio has always contained virtually identical holdings as the Genesis Composite within the countries it has had the ability to invest in. Therefore the value added through stock selection was negligible between the portfolio and the Composite (as seen on the Y axis), although there have been very large differences due to country weightings (the X axis). The absence of investments in both Russia and Egypt (which returned 800% and 1,400% respectively over the period within the Genesis Composite) cost the CalPERS portfolio a combined 2.5% per annum versus the Genesis Composite since inception. The inability to invest in the Genesis Smaller Companies vehicle and the delay in investing in India until late 2004 cost a further 1.5% per annum versus the Genesis Composite. The one notable market that was beneficial for the CalPERS portfolio to be excluded from was China, as the returns achieved by the Genesis Composite were lower than those achieved in the overall asset class. A secondary result of the exclusions is that the weightings within the other markets were increased, leading to a more concentrated portfolio. Whilst this added marginal value in Brazil, Malaysia and South Africa, the two largest markets, South Korea and Taiwan (which were increased the most) underperformed the asset class over the period. This cost the CalPERS portfolio another 2% per annum versus the Genesis Composite, resulting in an overall deficit of 6% per annum since the inception of the CalPERS portfolio.

#### **Sector Analysis**

The country exclusions also resulted in quite different profiles on a sector basis between the CalPERS portfolio and the Genesis Composite and the results of these can be seen on the Variance of Sectors chart. As an example, three Telecoms holdings in Indonesia, Russia and Egypt all returned in excess of 500% over the period and the CalPERS portfolio was unable to benefit from those. The Financials sector was another detractor for the CalPERS portfolio, largely due to the inability to invest in two successful Indonesian banks until 2006.

## **Variance of Significant Countries**

CalPERS Portfolio vs Genesis Composite Inception to March 2007 (annualised)



% Relative Contribution from Country Weighting

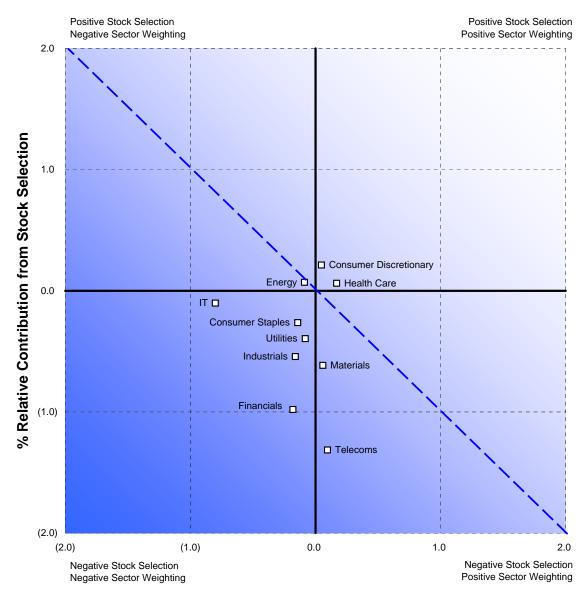
CalPERS vs Genesis Composite - Country Variance Inception to March 2007

	Stock	Country	Total	Annualised % Return Since Inception		nception
	Selection	Weighting	Variance	CalPERS	Composite	Index*
Brazil	(0.15)	0.26	0.11	39.5	40.1	58.9
Chile	(0.05)	(0.21)	(0.26)	38.1	40.3	33.7
China	0.00	0.43	0.43	-	24.4	32.5
Egypt	0.00	(1.18)	(1.18)	-	84.9	76.4
Genesis Smaller Co.	0.00	(0.42)	(0.42)	-	43.5	-
India	0.24	(0.69)	(0.45)	20.6	37.4	41.3
Malaysia	(0.02)	0.47	0.45	17.2	22.5	18.6
Mexico	(0.03)	(0.47)	(0.51)	32.3	33.2	36.8
Russia	0.00	(1.30)	(1.30)	-	66.9	73.0
South Africa	0.07	0.34	0.41	44.0	43.0	37.3
South Korea	(0.22)	(1.07)	(1.29)	22.6	23.0	24.1
Taiwan	(0.36)	(0.70)	(1.07)	11.8	15.7	11.9

<sup>\*</sup>MSCI index series used

## **Variance of Sectors**

## CalPERS Portfolio vs Genesis Composite Inception to March 2007 (annualised)



% Relative Contribution from Sector Weighting

CalPERS vs Genesis Composite - Sector Variance Inception to March 2007

	Stock	Sector	Total
	Selection	Weighting	Variance
<b>Consumer Discretiona</b>	0.21	0.05	0.26
Consumer Staples	(0.26)	(0.14)	(0.40)
Energy	0.07	(0.09)	(0.02)
Financials	(0.98)	(0.18)	(1.16)
Health Care	0.06	0.17	0.23
Industrials	(0.54)	(0.16)	(0.70)
IT	(0.10)	(0.80)	(0.90)
Materials	(0.62)	0.06	(0.56)
Telecoms	(1.31)	0.10	(1.22)
Utilities	(0.40)	(80.0)	(0.48)